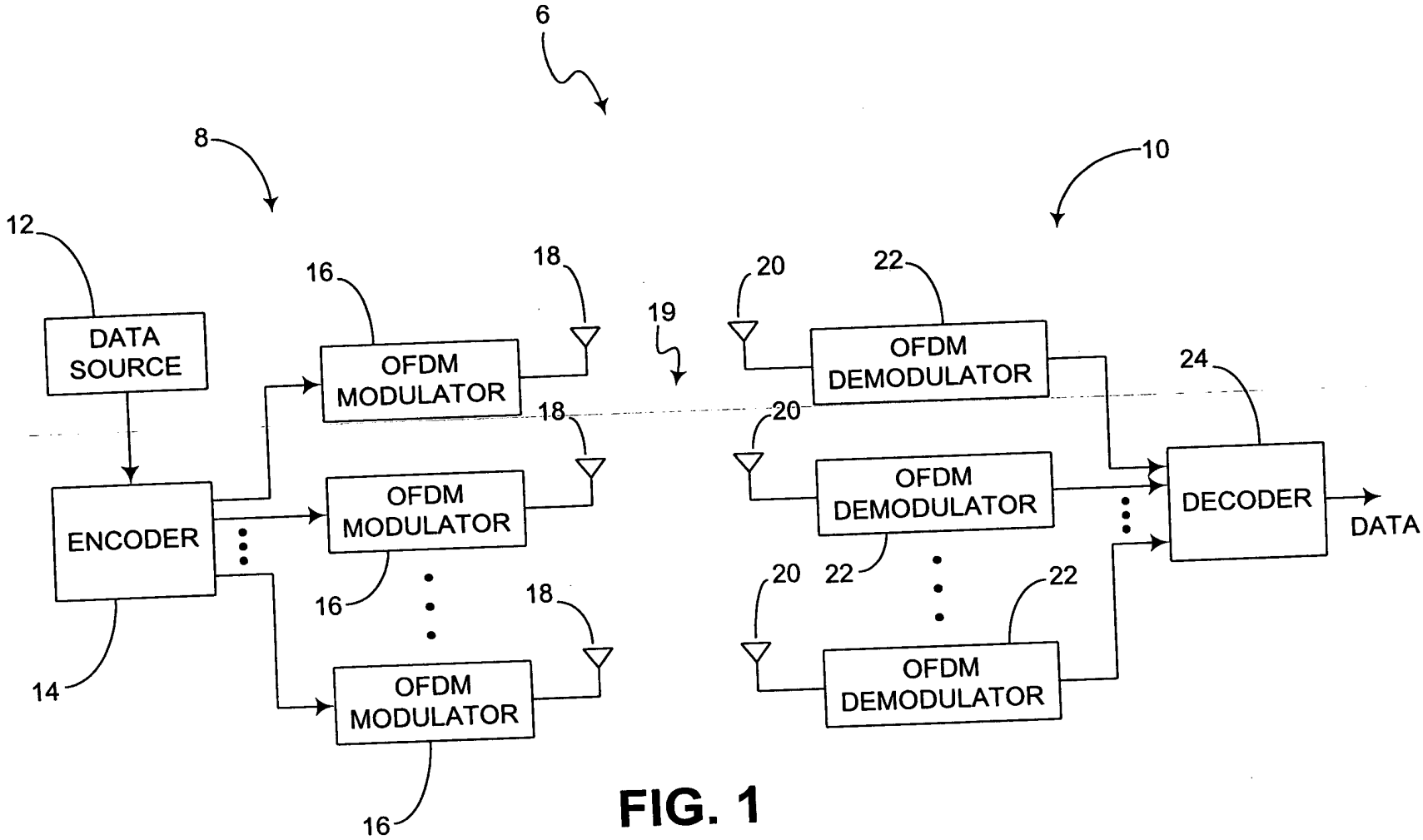
6
8
10
12
DATA SOURCE
ENCODER
14
16
OFDM MODULATOR
16
OFDM MODULATOR
16
OFDM MODULATOR
16
18
18
18
19
20
OFDM DEMODULATOR
20
OFDM DEMODULATOR
20
OFDM DEMODULATOR
22
22
22
24
DECODER
DATA

FIG. 1

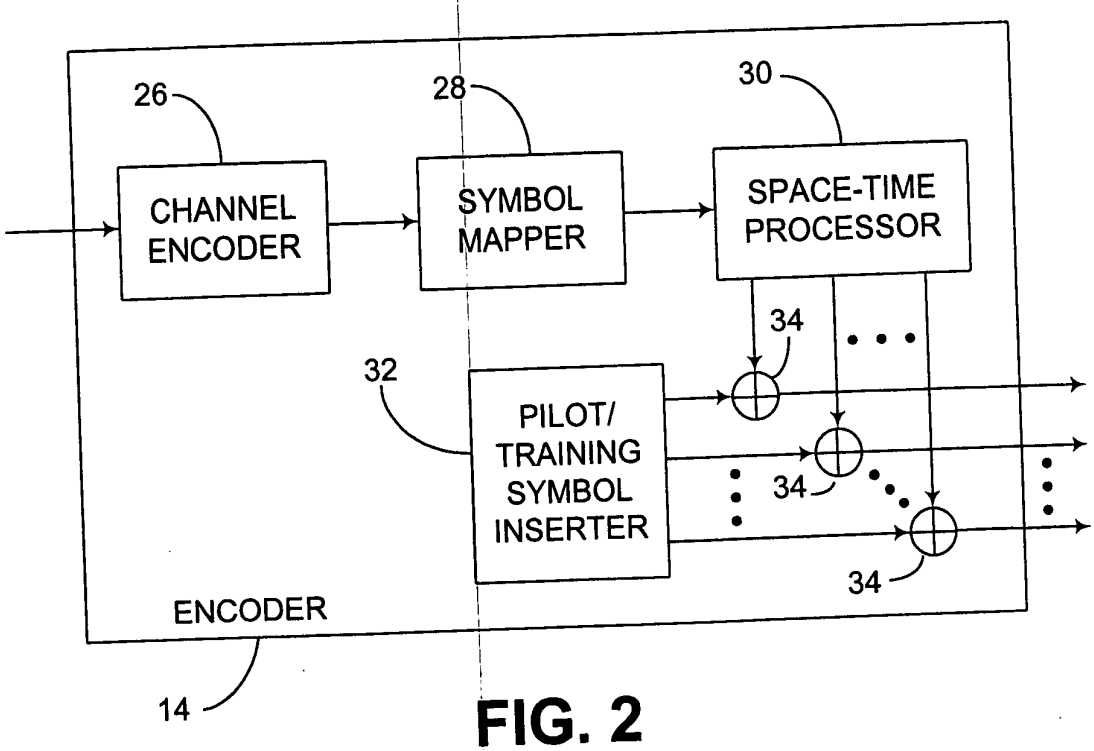
26
28
30
CHANNEL ENCODER
SYMBOL MAPPER
SPACE-TIME PROCESSOR
34
32
PILOT/ TRAINING SYMBOL INSERTER
34
34
ENCODER
14

FIG. 2

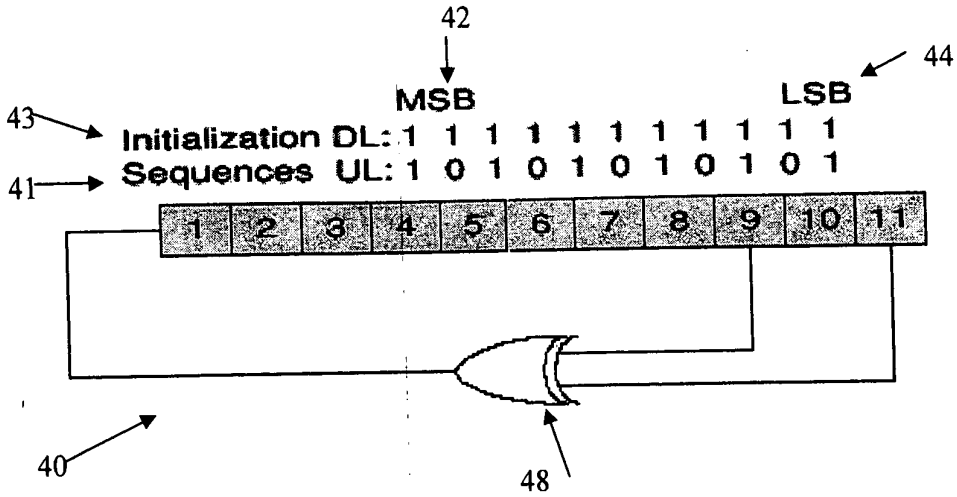
42
MSB
LSB
44
43
Initialization DL: 1 1 1 1 1 1 1 1 1 1 1
41
Sequences UL: 1 0 1 0 1 0 1 0 1 0 1
1
2
3
4
5
6
7
8
9
10
11
40
48

FIG. 3

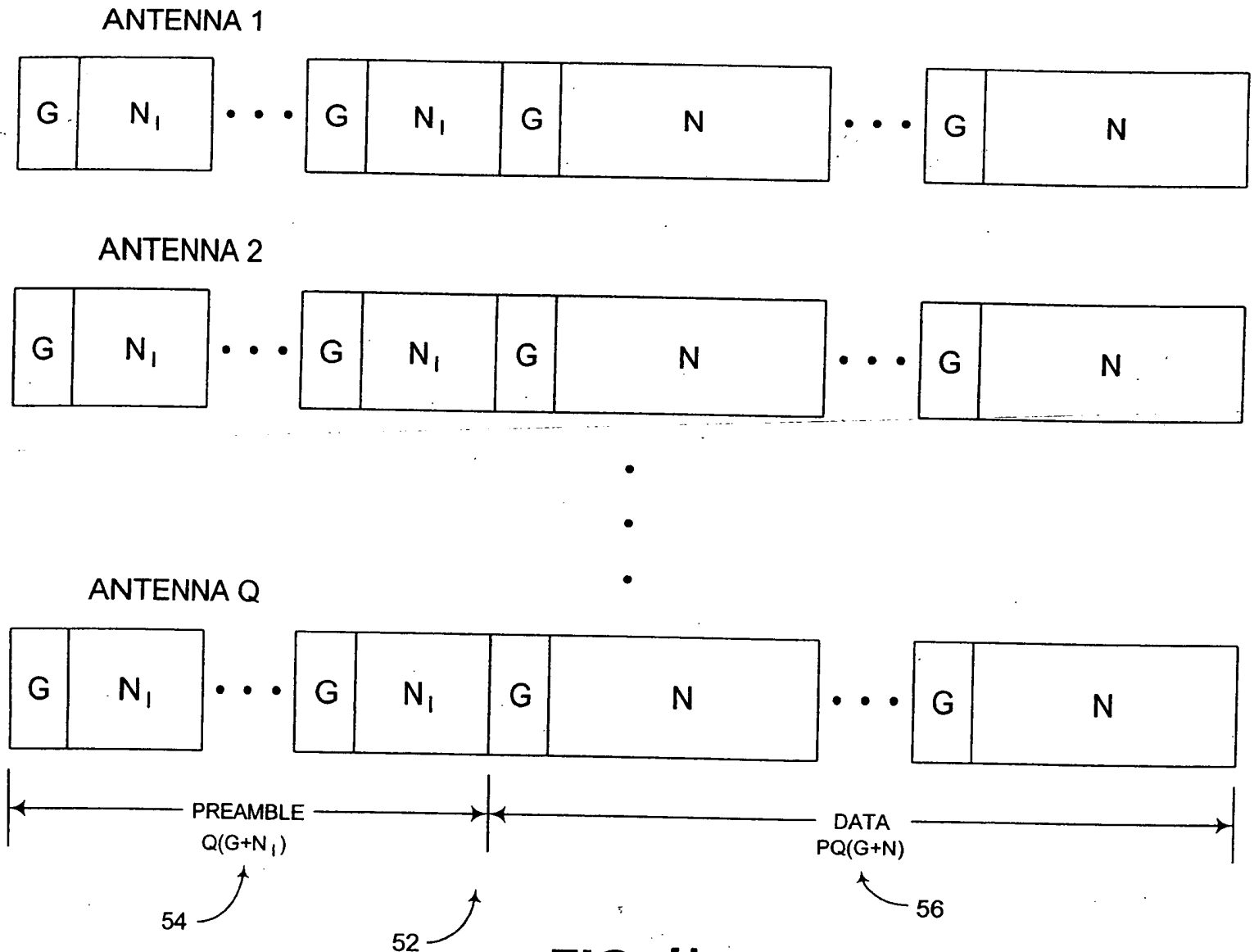
ANTENNA 1
G
N1
G
N1
G
N
G
N
ANTENNA 2
G
N1
G
N1
G
N
G
N
ANTENNA Q
G
N1
G
N1
G
N
G
N
PREAMBLE
Q(G+N1)
DATA
PQ(G+N)
54
52
56

FIG. 4

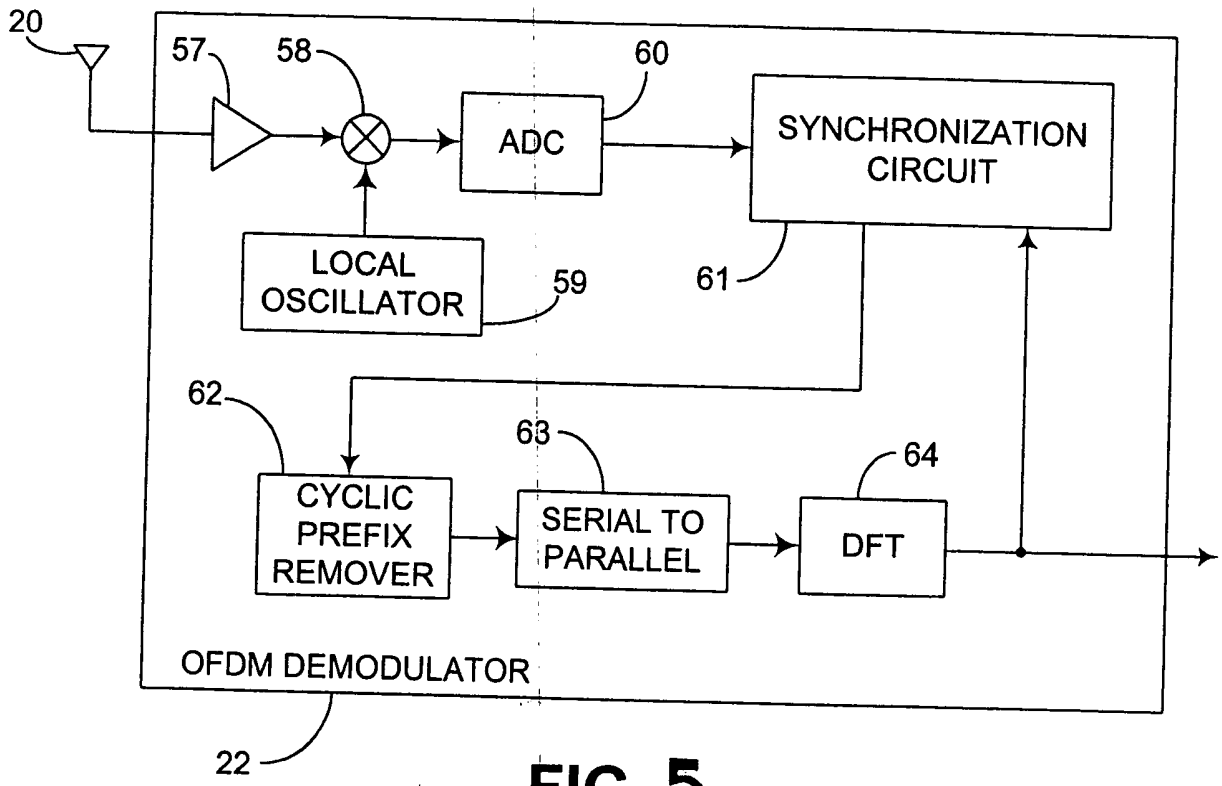
20
57
58
60
ADC
SYNCHRONIZATION CIRCUIT
LOCAL OSCILLATOR
59
61
62
63
64
CYCLIC PREFIX REMOVER
SERIAL TO PARALLEL
DFT
OFDM DEMODULATOR
22

FIG. 5

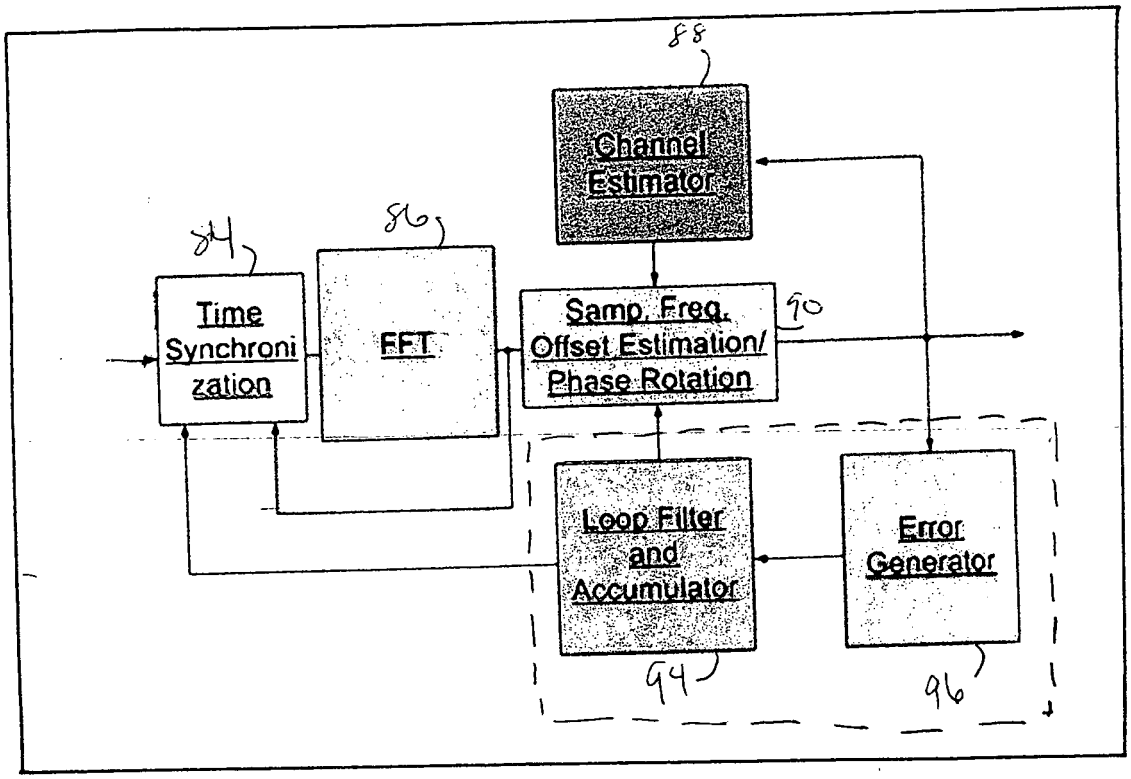
61
88
Channel Estimator
84
86
Time Synchroni zation
FFT
Samp. Freq. Offset Estimation/ Phase Rotation
90
Loop Filter and Accumulator
Error Generator
94
96

Fig. 6